Idaho Workforce Data Quality Initiative
Part II -Technical Proposal

1. Statement of Current Capacity

The Idaho Department of Labor, as the state workforce agency, has several workforce data management information systems and participant databases for measuring the performance of the employment and training programs it administers. These systems are currently designed to meet state and federal reporting requirements for program participants and allow analysis of individual wage outcomes. The state as a whole, however, lacks a developed workforce longitudinal data system that: 1) consists of data records from its workforce programs; 2) automatically links those data records to the statewide longitudinal system; and 3) includes employment and education-related data outcomes for longitudinal research. Idaho's management information and reporting systems were created to improve customer service by tracking workforce system participants' growth and to meet federal reporting requirements. Exited participants provide the system's outcome information, but the system does not link these individual outcome data across program or multi-program participation.

Despite this, Labor has invested in automation of its information systems, developing the workforce system databases in an Internet platform, which has increased accessibility and enhanced communication. The work force system databases, housed in Labor's administrative offices, allow workforce system staff to data enter and extract limited customer data in several aggregate reports.

This platform provides statewide secure user access. Data quality is controlled at the point of input through a series of edits that demand accuracy in data entry. The system also produces data quality reports, which prompt staff to review selected elements for accuracy or future updates. These reports are continually monitored to ensure they are addressed. Required data validation is conducted at several

points. Some instances may require source documentation.

Labor's management information systems for its Workforce Investment Act, Wagner-Peyser, Trade Adjustment Assistance programs, populated by its Unemployment Insurance program wage records along with WRIS/WRIS2 and FEDES data, provide a number of online ad hoc reporting options ~ demographic and programmatic data related to active participants or exiters, follow-up data and required federal reports including performance data based on quarterly wage records. Users access data at all levels ~ state, local area, service provider and participant.

The acquisition of education data, however, is labor-intensive with no automated means of obtaining relevant educational outcomes for program participants. Automation would alleviate any concerns regarding accuracy of the data collected, reduce staff time in searching for the data and more easily generate the appropriate reports and analysis for federal, state and local entities. And while the department's internal databases are not currently linked longitudinally, the department does have the capacity and currently engages in cooperative agreements with outside entities for the purposes of analyzing workforce supply and demand and educational capacity.

To help address the lack of data, the department is playing a significant role in an effort between the Idaho State Board of Education and the State Department of Education to develop a P-20 educational statewide longitudinal database system that will connect with the workforce longitudinal system when developed. The effort, outlined by a Memorandum of Understanding, is designed to overcome the state's limitations in combining education data with wage records through the collection of Social Security Numbers as permissible. When Social Security numbers are not available, demographic data such as name, gender and birth date will be used to link wage records in an effort to ease the difficulty in tying workforce and educational data. The results of this effort will enhance the proposed workforce longitudinal

data system through the development of system reports that will inform workforce system participants, administrators, elected officials and service providers that may be used for analysis and research.

To meet this proposal's goals, the Board of Education, representing Idaho's education system, has agreed to exchange confidential information with Labor. The board will collect the data - including Social Security numbers - from Idaho's post-secondary institutions. Once collected, the data will be uploaded to Labor's longitudinal database on a quarterly basis for reporting purposes (See attachment IWDQI – Timeline for the grant's roll out). In the short term, this agreement will streamline the way the department currently gathers this information.

Labor has partnerships and cooperative agreements with 49 other state agencies, educational institutions and licensing boards for the exchange of confidential data including individual wage information based on Social Security numbers. These cooperative agreements comply with U.S. Department of Labor rules and state laws mandating confidentiality of employer and individual worker information. Cooperative agreements and partnerships exist with other educational institutions and agencies such as the **Idaho Division of Professional-Technical Education, Adult Basic Education, Division of Vocational Rehabilitation** and **Boise State University.** These agreements and partnerships range from verifying wage information necessary for program participation to determining employment status up to and including measuring program effectiveness. Other agreements include divisions within the **Idaho Department of Health and Welfare** to cover the exchange of employment status, earnings and labor sector information involving more than 250,000 of its customers.

Labor currently has partnerships or cooperative agreements with the states of **Montana**, **Oregon**, **Washington** and **Wyoming**, and plans to pursue memoranda with **Nevada** and **Utah** for the exchange of wage records involving specific labor research projects. Variables currently exchanged include individual

program, wage record and employment information.

The department, along with the board, also entered into an MOU with Oregon, Washington and Hawaii to participate in a longitudinal data exchange managed by the **Western Interstates Commission for Higher Education,** which is funded through a $1.5 million Gates Foundation grant. This project will create a structure where multiple states can exchange individual-level data at the secondary education, post-secondary education and work force levels while preserving confidentiality.

Any research requests for use of the Idaho Longitudinal Workforce Database proposed through this grant will be overseen by an **Idaho Institutional Review Board,** established and registered by Labor. Its representatives from Labor, the board and Department of Education and Idaho's three public universities will act as the independent ethics committee – an added protection on top of existing laws and rules to keep the information confidential.

With the receipt of Social Security numbers and completion data from the State Board of Education, Labor anticipates that it will match the education data with its wage records. Data exchanged includes educational institution, graduation date, degree, academic career, program, resident state, date of birth, gender, NAICS code, region and individual wage records including name, Social Security number, year, wages earned, employer name and contact information. In return, Labor will provide the Idaho State Board of Education with summary information at a level that does not identify the individual students but provides adequate detail for identifying program outcomes and improvement.

The result will be an updated supply/demand and gap information study with the latest wage data matched with unemployment insurance files. Matching the educational output data with wage records will allow the agency to pinpoint various industries' supply based on where the students graduate, what percentage completed their course of study and obtained certification and if they are working in Idaho in an

industry. Through this anticipated process, the grant should allow the state to identify and standardize data elements required for effective data matching and meaningful policy research and analysis; establish a governance structure; create a set of regular reports using exchange data; develop the processes and procedures for FERPA-compliant access to data and provide technical assistance to surrounding states not part of the initial effort.

2. Plan Outline

Labor's objective is to develop a Longitudinal Workforce Database for the state's workforce programs that will merge data elements – or entire systems – into a centralized warehouse for ease of populating data, automated reporting and analysis at the program and individual level. Although development of Idaho's current statewide longitudinal database system lags behind other states, this grant provides the opportunity to align data needs and identify relevant variables and definitions, ensuring that the workforce longitudinal system has the capacity to communicate its outcomes with minimal complications.

Labor will fully define the research reports and deliverables necessary for making informed decisions on the future of Idaho's workforce programs; conduct an analysis of the agency's current capacity to produce the reports; recommend a methodology and variables for conducting the required analysis and design its Longitudinal Workforce Database and the analytical and Web tools necessary for producing the reports. When awarded the grant, the department will:

a) Expand its capacity to deliver longitudinal data by creating a "data warehouse" – a repository of data records that spans all workforce systems - and upgrade its reporting capabilities;

b) Improve the quality of workforce data and expand capacity to link workforce and education to fully analyze supply and demand linkages;

c) Showcase the need for longitudinal data through the generation of significant research;

d) Integrate programmatic and performance data with sources of labor market information to analyze how program outcomes follow state labor trends;

e) Develop the structure and architecture of the workforce-based data warehouse to align with the P-20 statewide longitudinal database system;

f) Continue to facilitate the examination of policy and programmatic questions that cannot be currently addressed comprehensively;

g) Make data and reports available to consumers, including educators, program administrators, stakeholders and the general public through a user-friendly Web application

Through these objectives, the state could use the grant to more clearly define the outcomes of its workforce programs as they relate to participants' educational performance and achievement. This would allow staff: 1) to analyze the effectiveness of education and training programs used by the workforce program participants, including unemployment insurance claimants; 2) to develop supply and demand data related to job seekers ability to obtain employment through participation in education; 3) to compare employment outcomes between high school dropouts, graduates and those undertaking post-secondary education options through workforce programs.

According to the Data Quality Campaign's 2009 Annual Survey of the 10 Essential Elements of a Longitudinal Data System, Idaho employs only one. While its educational statewide longitudinal data system is one of the least developed in the nation, it has made great strides learning from other states. Idaho's State Department of Education has been working aggressively to complete the P-20 portion of the state's longitudinal data system. In 2008, the state education department received a legislative appropriation to begin work on the P-20 portion of the longitudinal data system, completing a data

collection inventory and P-20 data system redesign requirements. In April 2009, the Board of Education received an Institute of Education Sciences Statewide Longitudinal Data System grant to aid the education department in building a P-20 statewide longitudinal data warehouse called the Idaho System for Educational Excellence. This system is designed to collect data and generate reports that provide substance to summary information commensurate with a user's authorization level. With significant hardware investment and software upgrades, the project creates an open architecture/modular platform, portal, directory and database, which link to any number of programs, applications and tools through a robust virtual environment. The modified network configuration can accommodate the expanding needs of the Department of Education including the addition of virtual private network design and other changes to allow outside applications to be remotely administered and monitored.

While Labor will be solely responsible for carrying out the design, development and deployment of its longitudinal database, it will work with and solicit input from the Idaho State Board of Education. And while the board will house its educational database outside Labor's network, the two independent databases will be capable of linking to each other through mutually agreed identifiers.

Labor's reporting application, which it will administer, will be designed to eventually accommodate detailed individual student "transcript-level" information from the board across the entire educational and training spectrum on individual course enrollments, grades, instructors, terms enrolled, majors and minors, completion data, certifications and eventually, employers, industries and wages earned.

To bolster the available data, Labor has enlisted the aid of the **Idaho Transportation Department** through a Memorandum of Understanding (see attachment IWDQI – Idaho Transportation Dept. MOU). Because unemployment insurance wage records do not always contain complete customer demographic data, including birth dates, Labor has pursued efforts to enhance the outlook of the system's data quality. The data sharing agreement created with the Idaho Department of Transportation will link its driver's license data to Labor's workforce program data. This specific agreement outlines the unique demographic

characteristics necessary to improve the data quality, including birth date, which will then link to Labor's workforce data records. With scheduled quarterly updates, this link ensures that the most up-to-date data is available to improve the demographic linkage when aligned with education's data.

Ongoing support through leadership and resources is key to maintaining the proposed longitudinal data system so it can improve its workforce and educational systems and sustain the system after the project is implemented. Individual agencies will be responsible for maintain their operational systems and ensuring data quality processes are followed. While there is no guarantee of future state funding, this project has garnered broad executive and legislative support as evidenced by the state funding that educations received for components of the longitudinal data system project. The major stakeholders in this project – Labor, the board and the Department of Education – have made a major commitment through resources and expertise to ensure it is successful beyond the three year grant cycle. Labor will incorporate this database into its current scope of work and will integrate it into its current family of databases. Labor will maintain this project by making every effort to uphold and preserve its existing MOUs, data-sharing agreements and any others that result from this effort. Again, the state's administration recognizes that continuing this project directly improves the overall quality of services to its residents and enhances the state's educational and workforce systems.

3. Partnership Strategies

Labor's Communications and Research Division will serve as the lead for this effort and will partner with representatives of its Workforce Development Division, which administers the state's Workforce Investment Act, Trade Adjustment Assistance, Wagner-Peyser and unemployment insurance programs. With these programs housed within one of the department's divisions, key wage data - obtained through Department of Labor unemployment insurance, WRIS/WRIS2 and FEDES records - is readily available to

populate the proposed longitudinal database to align with workforce program system data. This will constitute one of the central sources of longitudinal data for the statewide longitudinal database system. Although agreements are in place to allow for data sharing between the state's workforce programs, the close proximity of program staff facilitates communication between project staff to more easily resolve any potential issues that may be encountered. A natural result of this arrangement is a cross-program team to improve data analysis, producing reports and analyses from an individual program perspective. The reporting outcomes and metrics will ultimately be determined by this team, along with staff from the department's Information Technology Division, to define the scope of the project's design.

Labor's partner - and educational lead - will be the Idaho State Board of Education for developing a plan to work with the education community to design, build and house a multi-dimensional, longitudinal workforce database that includes individual data and can link with a P-20 educational database. The board, representing Idaho's education system, has agreed to exchange confidential information with Labor (See attachment IWDQI-SBOE MOU). The board will collect the data - including Social Security numbers - from Idaho's post-secondary institutions so it can be uploaded to Labor's longitudinal database on a quarterly basis, streamlining the way Labor gathers this information.

Labor is currently a member of the Data Management Council, established by the Board of Education to oversee the development of an educational longitudinal database. The Data Management Council's membership is made up of institutional research directors and information technology personnel from Boise State University, University of Idaho, North Idaho College and representatives from the Board of Education, State Department of Education including school districts, Idaho Department of Labor, a postsecondary registration and Professional-Technical Education.

The group provides oversight and sound policy recommendations on developing and implementing a comprehensive, accessible and efficient statewide P-20 and workforce longitudinal data system. It oversees development; establishes proposed access, security and governance polices; creates a data

dictionary; develops logistics for meetings and communication; defines roles and responsibilities and establishes a data collection calendar. Through the Data Management Council, the board is working with regional and national organizations like the National Center for Higher Education Management Systems and the Western Interstate Commission for Higher Education to identify a post-secondary data collection system that will best meet the needs of Idaho.

Idaho's research universities will be represented on the **Idaho Institutional Review Board,** which will review all requests for access to the Idaho Longitudinal Workforce Database and ensure that any research projects include adequate measures for protecting human subjects prior to submitting the requests for final approval by the Idaho Department of Labor's Executive Staff and the Data Management Council.

The state currently enjoys the convenience of having its unemployment insurance, employment service, workforce development, research and analysis functions all housed within the Department of Labor, which serves as the state's workforce agency. In addition to the Board of Education, Labor has engaged with the following state agencies to assist in the project: the State Department of Education, the Idaho Division of Professional-Technical Education, the Division of Vocational Rehabilitation, the Idaho Bureau of Occupational Licensing, the Idaho Department of Transportation and other state entities. Representatives from each of these agencies will offer input to help define the reporting outcomes and metrics for measuring the outcomes of the state's workforce programs through the longitudinal database system. And much like the “in-house” cross-program team, a cross-agency team will also be formed to provide an organizational perspective and offer guidance to ensure that workforce data is reported consistently and clearly so that data users can better understand the information.

Most notably, the **Idaho Department of Transportation** recently entered into a data-sharing agreement with Labor allowing Labor to augment its wage records with driver’s license data. As noted earlier, this collaboration will greatly enhance efforts to align education, skills and training with the demand to create jobs, increase earnings and improve Idaho’s economic well-being and ultimately its quality of life.

Studying these vital links between education, workforce and economic outcomes fosters cost effective investment of tax resources in education and job training, permitting the transfer of knowledge about skills and abilities to businesses that create jobs and pay the wages that are Idaho's economic lifeblood. Governance protocols between the agencies including the Institutional Review Board are also being developed to ensure the data and research procedures comply with the Family Educational Rights and Privacy Act, the Confidential Information Protection and Statistical Efficiency Act, unemployment insurance federal and state regulations and other relevant identity and privacy protection regulations and guidelines against the misuse of these data.

The development and on-going maintenance of these data-sharing agreements will include data parameters and the time frame for the agreements, especially when sharing confidential data between current and future agencies involved in this effort. Educational input will be solicited from the data governing group currently addressing Idaho's needs for an educational longitudinal database.

4. DATABASE DESIGN

Labor's protocol will define and customize this database, storing the information on a SQL server. It will process and upload information quarterly from: wage records; unemployment insurance records; Workforce Investment Act, Trade Adjustment Assistance, National Emergency Grants, Trade Readjustment Allowances program data, wage-matched records from each of Idaho's surrounding states and to the extent possible from Wagner-Peyser/Employment Services, Mass layoff Statistics, the National Directory of New Hires, WRIS/WRIS2 and FEDES.

Labor's longitudinal workforce database will include a single unique identifier in the form of a Social Security number stored in a single table, provided the information is available. Unfortunately, not all workforce and educational programs collect SSN as a unique identifier. This is the reason that Idaho will build its longitudinal workforce database with the ability to collect several key pieces of identifying

information. This will allow the state to merge data from different data sources which increases the likelihood of accurate data sets being matched. This ultimately results in higher quality data. Thus, key identifiers include Social Security numbers, name, aliases, birth date, gender, address and a unique identifier assigned by the Board of Education and the Idaho State Department of Education to people within the educational system to follow students over time, to link teachers and students and to monitor the transition of students to teachers.

The FERPA-compliant unique identifier is a nine-character, alpha-numeric data element that is randomly created by the P-20 system. This unique ID will be assigned, disseminated and maintained by that department for persons interacting with its system and will remain the same regardless of the person's role in the educational system (student, teacher or administrator). It can crosswalk data, linking Social Security numbers from employment data to K-12 data from the P-20 database because Idaho's primary and secondary schools do not collect Social Security numbers. However, Idaho post-secondary education institutions collect Social Security numbers for scholarship and financial aid requirements. The crosswalk also contains a robust name matching application designed to identify spelling errors, data input transpositions and other data input errors to assist in the maintenance of a single identifier throughout the time a person may be involved in the data system including the transition from student to employee. The unique identifier was implemented in April 2010 as part of the State Department of Education's P-20 data warehouse.

For data matching with Idaho's P-20 educational longitudinal database, a loose link will be programmed based primarily on non-Social Security number identifiers to allow crosswalks to databases like Transportation's whenever Social Security numbers are not available. See page 14 for more information on the proposed crosswalk. Any record matching or data sharing will only take place when authorized by law (state or federal) or there is a valid agreement in effect.

Under this grant, the Data Management Council will be assigned the responsibility of overseeing the additional database development and data quality measures, developing and recommending clear reporting rules and operational policies, overseeing update of the statewide data dictionary and overseeing the development of a longitudinal state work force data warehouse that meets statewide longitudinal data needs, contains accurate and consistent data and complies with confidentiality policies. This groups' responsibilities also include overseeing the development and recommending privacy protection policies, data exchange agreements, confidentiality policies for access and uses, data elements and variables, data element management, data security protocols, data collection, data exchange protocols, record matching, data quality assurance, a statewide data dictionary, a complete set of validation rules and a robust data audit process. A draft data access and security policy is included as an attachment to this grant for review. (See attachment IWDQI – Security-Access Policy (draft)).

Individual programs/agencies will be responsible for ensuring the quality of program data in the systems that each agency administers since the quality of the data may vary depending on how they are used. Program databases with fewer data sources tend to produce more accurate data. However, as these databases come together, the quality of data may not be up to standards. Missing data, data that do not comply with field definitions and other issues are difficult to correct except on individual records. Partner agencies will be expected to make necessary changes in policies and procedures to ensure the consistency and accuracy of data entered at the source prior to being included in the database warehouse. To focus on this, the state plans to establish procedures that would target data validation and generate data quality reports for partner agencies and programs that will recap record matches and those with missing elements.

A key feature of this process will offer data providers comments for improving their processes. In order to continually maintain data quality, reports will be generated regularly to ensure that system improvements continue. Data validation processes are currently required of the majority of federal workforce systems programs. These consist of error detection and correction of selected characteristics of

data files for monthly uploads, which feed into federal quarterly and annual reporting and to the re-computation of the performance measure rates generated by federal reporting software (DRVS). Processes established for this grant will request that data-source agencies and programs follow similar procedures to those implemented by the state's workforce programs.

Labor's work force database will consolidate information owned and maintained by the Department of Labor into a single database warehouse to include customer data from Trade Adjustment Assistance, National Emergency Grant, Workforce Investment Act, Workforce Development Training Fund, Wagner-Peyser/Employment Service, Mass Layoff Statistics, unemployment insurance wages, matched wage records from surrounding states and unemployment insurance claim files. Including National Directory of New Hires and WRIS/WRIS2 and FEDES linking capabilities will be pursued. This grant will fund the development of this database warehouse as it links to the state's eventual educational longitudinal database, which will be a P-20 system that includes a unique statewide student and teacher identifier; student-level enrollment, demographic and program participation information; and student-level transcript information. Additionally, a state data audit system will assess data quality, validity and reliability in using the data in the system to otherwise inform education policy and practice in order to better align state academic content standards and curricula with the demands of post-secondary education, the 21st Century workforce and the Armed Forces.

Labor has obtained a data-sharing agreement with Transportation to match SSNs with legal name, gender and date of birth by triangulating the same variables with the P-12 population of the P-20 longitudinal database within the Idaho State Department of Education, which has offered to share with Labor the name-matching algorithm used to assign the unique school IDs. This robust name matching algorithm is built to consider the legal name, family name and transposition of names with last names, name alternatives, single and double phonetic error variations, anglicized names, incomplete names or last names, date of birth transpositions and different date formats, gender as female, male or unknown.

With the above variations, the P-12 and later, as intended, the eight state supported post-secondary educational institutions will assign the unique identifier to each student using the same P-12 criteria.

By virtue of this MOU, Labor will obtain the name-matching variables from Transportation's databases to link directly with corresponding Social Security numbers to complete the full matching cycle with educational databases that lack Social Security numbers. Using Transportation's data, Labor can match P-20 unique IDs and Social Security numbers. Working in conjunction with Transportation and Education, Labor will be able to add the last element to help establish educational outcomes for its employment and training program participants through the creation of the P-Workforce longitudinal database described above.

To develop this longitudinal workforce database, Labor anticipates the construction of a single SQL server database for processing data uploaded on a quarterly basis by its Workforce Development Division with the capacity to be expanded for data uploads by the Board of Education (See attachment IWDQI – Database Concept/Structure for a preliminary project diagram) and Idaho Transportation Department. Personal information such as Social Security numbers will be stored in an encrypted format with a robust role-based security setup for users accessing the system. Database backup procedures and education data synchronization will be automated at scheduled intervals. With the new reporting and analysis system, reports will be generated from a single analytics system, making historical data available.

The workforce longitudinal database will incorporate various data tables populated with information from each of the unique data sources of workforce information. Outlined below is a description of each of the planned data tables used in the longitudinal process.

- The data structure for the main unique **Social Security number table** will consist of an automatically generated record counter, Social Security number, wage flag to indicate wages are reported in the wage table and Workforce Investment Act flag indicating whether the Social Security number is a Workforce Investment Act, Trade Adjustment Assistance or National Emergency Grant service

recipient or if the record appears matched to another state (through WRIS/WRIS2, FEDES or another state's data source) or National Directory of New Hires. Other flags will be posted whenever new or future programs are added to the longitudinal database. The main unique Social Security number table will be updated quarterly through an automated SQL procedure that will read each of the supplying tables and determine if new records are to be added or modified to keep a precise count of the size of the populations being served.

- An **Unemployment Insurance Claimant Table** will store historical information for all new claims filed in Idaho starting with the year 2005 or prior when available. Each record will be identified by a Social Security number coupled with effective claim dates, allowing multiple claim filings to be captured.
- A **Wage Record Table** consisting of all wages reported by the state's covered employers.
- The information contained in a **Wage Records Surrounding States** table will only reflect records matching the main unique Social Security number table and will be identified by state with the same table structure shown for Idaho wage records above.
- A table with **Mass Layoff Statistics** information for large layoffs will be fed into the longitudinal database to document whether an individual has been laid off from a sensitive or job off-shoring industry.
- Tables for the **Trade Adjustment Assistance Act, National Emergency Grant, Workforce Investment Act, Workforce Development Training Fund** and **Wagner-Peyser/Employment Services** data will contain unique identifiers based on the combination of Social Security numbers with dates of service to track multiple services and programs through time.
- Labor will also pursue matching data from the **National Registry of New Hires,** integrating it into its database on the successful completion of a memorandum of understanding or other legal protocols.

Security and confidentiality are essential to maintaining department credibility with data users and providers.

This workforce data warehouse will contain longitudinal wage records, employer records and program exiter data. Labor will control the sharing of the data by incorporating and enforcing business rules that stress privacy to ensure that aggregate, non-confidential data may be shared with the public, yet allow authorized staff access to the appropriate level of confidential data necessary to complete their research or analysis. The premise is to allow authorized users access to the application, only available through a secure FTP server, to generate ad hoc reports, analyze data and conduct general research within their security level, all the while maintaining federal and state confidentiality regulations. The activities required to achieve this outcome include system implementation, testing and user training. A federated directory system will manage the authentication and authorization of users of these applications and provide for single sign-on. A centralized and uniform security model that meets the data access, privacy and security policies, including strict adherence to FERPA can be applied to all agency applications.

Under Labor's agreement with the Bureau of Labor Statistics, all employees in the Communications and Research Division and its agents have signed confidentiality agreements under the Confidential Information Protection and Statistical Efficiency Act. At a minimum this means any employee/employer data collected by the division must be used exclusively for statistical purposes and not disclosed in any identifiable form without permission. Violations are a class E felony carrying a fine of $250,000 and five years in prison.

In addition, through its partnership with U.S. Department of Labor in the unemployment compensation program, the employment security information the department collects is confidential under sections 303(a) (1) and 303(a) (8) of the Social Security Act (42 U.S.C. 503(a) (1) and (a) (8)). A newly enacted federal rule, 20

C.F.R. 603, sets forth the uniform minimum federal requirements of confidentiality, restricting disclosure of employment security information.

Labor has extended that protection to information collected for other reasons by defining "employment security information" very broadly in Idaho law. Idaho Code Section 9-340C (7) states "employment security information" is any information descriptive of an identifiable person received, recorded, prepared, furnished or collected by the Department of Labor or the Industrial Commission in the administration of Idaho's Employment Security Law. Idaho Code sections 9-340C (7) and 72-1342 restrict the disclosure of employment security information. Idaho Code section 72-1372(g) provides civil penalties for unauthorized disclosure, and section 72-1374 makes each unauthorized disclosure a misdemeanor.

Any department employee or any third-party contractor who engages in unauthorized disclosure of employment security information will be charged with a misdemeanor. Civil penalties also apply.

Labor has maintained a multitude of servers housing confidential data received by customers and other state agencies. Data or information identifying individuals or specific businesses is not released for public use. As noted earlier, only authorized staff will be permitted to access confidential information. Database security at the file, record and field level will be implemented based on user requirements/authorization. Built-in security features will be used to limit data access with drill-down elements and generation of ad-hoc reports incorporated into the system to limit access as necessary, depending on an individual's permission to view the data. To prevent any potential security breach, operations and hardware procedures are in place to monitor system access.

Labor implements strong security measures to limit physical access to the storage files that contains confidential data. At its administrative site, it maintains a separate and secure server room which contains the Storage Area Network. This site is guarded by Labor's network operations center and requires keycard access. A limited number of key cards are issued. Its off-site recovery location also has similar procedures to strictly limit access.

Once Labor's Longitudinal Workforce Database is designed, developed and populated with Web-based analytics tools, it will program a potentially extensive library of standardized workforce reports, which will be used to analyze work force supply/demand and employment and to assess educational improvement and reform efforts.

The mutual goal of Labor and the Board of Education in creating the longitudinal database is a single record per person of educational and employment attainment through time for the evaluation and continuous improvement of the educational and workforce systems and their outcomes to determine the success of participants in workforce programs - WIA, TAA, NEG, UI and Wagner-Peyser - in obtaining employment and/or higher wages over time.

Interchanging information from the workforce database to the educational database represents a prime opportunity for both agencies to analyze:

1. Employment and employment changes,
2. Wages and wage changes,
3. Employer and employer changes,
4. Employee demographics (age, gender, marital status) and changes,
5. Employee's industry/sector.

Reports using Labor's data will be able to determine:

- The employment rates of students and workforce participants from the various Idaho institutions and degree programs within those institutions and high schools and how they change over time.
- The educational attributes (school/institution attended, coursework taken, performance, demographics) of students and workforce program participants who become employed (or not) and have high or low earnings relative to others in their field, and how they change over time.

- The percentage of Idaho's high school, higher education students and workforce participants who continue to work in the state, and how it changes over time.
- The percentage of Idaho's workforce that returns to postsecondary education for additional training, whether they earn a credential and how that changes over time.
- The percentage of Idaho's high school and college students who are employed while in school, whether there is a correlation between their employment and their academic success, and how that changes over time.
- The relationship between specific industries and the employment rates of Idaho high school and college graduates and workforce participants and how that changes over time.
- The employment rates and incomes of students and workforce participants who do not attend college compared to those who do, by industries/sectors, and how that changes over time.

The migrating patterns resulting from layoffs or any other combination of circumstances from and between available tables will be invaluable for further research and analysis including their change over time.

As a result of this effort, Labor will produce ad hoc, quarterly and annual reports containing as much of this information as feasible to meet the needs of those who may benefit from Idaho's workforce programs and their subsequent enrollment in the state's educational system. Recipients of this information such as the State Board of Education and the Idaho Workforce Development Council can use it in directing and improving the programs they administer. These reports will be available in hard-copy, electronic file via email or online via links through Labor's website.

Labor's Communication and Research Division will work jointly with both its Workforce Development Division and Training Unit to develop and deploy statewide training for staff on the new longitudinal database and related tools so staff can provide better service to participants enrolled in employment and training programs. Training will assist the staff and their customers to develop better individual training

plans based upon reported outcomes. Deploying this training will take approximately one month after the longitudinal database and its reporting tools have been tested and released.

5. Staffing Capacity

Grant staffing for the workforce longitudinal database development will be the responsibility of the Idaho Department of Labor. The division lead within Labor will be its Communications and Research Division, which is the administrative entity for the state's cooperative agreement with the Bureau of Labor Statistics and is the state's Census Data Center. The division has a robust research staff of 30 people – a department deputy director in charge of oversight and administration, a chief research officer, three research supervisors, four Workforce Data research principals, seven senior research analysts, four research analysts, six regional labor economists, one communications professional and three people to coordinate the department's publications and Web graphics needs. Communications and Research is also home for the state's online Idaho Career Information System and has contracts for providing that service to more than 270 schools throughout the state.

The Workforce Data Quality Initiative will require several full-time contract positions during the grant cycle to develop an internal longitudinal database to interface with educational longitudinal databases. Database and Web development will involve a variety of information services occupations over the life of the grant. The research and planning effort is expected to involve a variety of research, analysis and legal occupations. Below is a breakdown of the positions required with brief synopsis of the necessary qualifications for each position. Full job descriptions for these positions can be found in attachment IWDQI – Job Descriptions.

i. Database Project Manager –

Labor's Longitudinal Workforce Database project manager will be an in-house staff person responsible for oversight and day-to-day monitoring of the project. The estimated project effort will be 100 percent per

year. This person will write all requests for proposals; oversee all contracts for outside services; manage agency resources to analyze, design, configure and implement the technical and security requirements for the development of Labor's analytics tool and the subsequent educational longitudinal database; oversee technical and administrative services for managing and planning technical production activities for data systems, network services and security environments; and ensure that projects are successfully completed. This person must be skilled in project management including planning, development, implementation and evaluation of projects; have worked closely in developing the project goals for the grant application; able to develop work plans, timelines, implementation strategies and evaluation methods to ensure successful completion; capable of identifying decision-making issues and key stakeholders, developing and implementing strategies to encourage and obtain stakeholder and community awareness and support and identifying project partners.

ii. Data Analysts

At least three levels of research analysts will work on this project:

A Research Analyst, Principal will take the lead in working with the Project Manager and contractor to assess Labor's capabilities and identify and confirm the reports and deliverables as necessary for developing an appropriate analytics tool and using data from Labor's Longitudinal Workforce Database. This person will communicate with the governance team about pertinent issues to develop the technical protocols for wage-record matching while maintaining confidentiality of the records under state and federal requirements. This person will support contractors in developing protocols and efficient data-matching infrastructure for all subsequent wage-record matches. Efforts will be made to determine the efficacy of combining other labor market information data sets to enrich the database. The research analyst, principal will take the lead in developing and planning research protocols within the scope of Labor's longitudinal database. Analysts will make recommendations to management and work with information services to see the initiative's objectives are achieved. They will plan and design the research methods, establish

procedures to assure the data quality and approve the initiative's results. They will plan and coordinate staff for developing, implementing and evaluating the longitudinal database, analysis and reporting.

A Senior Research Analyst will initially conduct all quarterly wage-record matches. The analyst will analyze initial wage-record matches and make summary findings for initial matches for the duration of the grant or until a fully integrated or automated analytical data system can be developed. This position will also train Labor research staff in the development and use of such reports and plan, develop and implement wage-record matches using Social Security numbers.

A Research Analyst will be responsible for data quality and culling and cleaning the data prior to uploading it into the analytical tool.

iii. Proposed staffing

In addition to staff mentioned above, these positions will be critical to the success of this project:

Data Warehouse Architect, a contractor, will work with the department to assess and confirm the current capabilities of the department's system and design the overall architecture of Labor's Longitudinal Workforce Database. This position will have the responsibility for designing and developing the logical and physical design of the fact and dimension tables, any staging tables needed for importing data from the various source systems, multi-dimensional and any metadata tables, views and procedures needed to support data logic, relational reporting and troubleshooting. The data warehouse architect will create and modify general computer applications software or specialized utility programs, analyze user needs and develop a software solution; analyze and design the longitudinal database within an application area, working with database administrator, programmers and Web professionals; coordinate changes to computer databases, test and implement the database, applying knowledge of database management systems; and plan, coordinate and implement security measures to safeguard computer databases

Computer Programmer / IT Programmer Analyst, contractors, will convert project specifications and statements of problems and procedures to detailed logical flow charts for coding into computer language

and the ultimate Web tool; develop and write computer programs to store, locate and retrieve specific documents, data and information; and work closely in Web development and in programming websites. Labor has an excellent 70-member information technology team. Roughly half are network experts, and half are programmers and system developers. But with Idaho designing a state-of-the-art unemployment insurance system, most of its programmers will be focused on that effort, requiring contract work for this grant.

Deputy Attorney General - Labor's Legal Bureau has a staff of four attorneys, one paralegal and one administrative assistant. For this grant, the department would tap the talents of the lawyers responsible for authoring current agreements with the institutions of higher education and renegotiating all existing grants. This individual will be responsible for working out the details of the necessary cooperative agreement between the State Board of Education for the exchange of data including Social Security numbers. This lawyer will work closely with the department's Executive Staff and the Data Management Council to ensure confidentiality and privacy procedures, policies, protocols, rules and laws are followed and will assess the impact of state and federal regulations, advising the department on implementation and compliance.

Web Services Specialist / Designer will be hired on contract to help define and design the Web-based analytical reporting tools for Labor's Longitudinal Workforce Database. This position will identify strategies, technologies and vendor and stakeholder requirements; recommend instrumentation; coordinate activities with vendors and other service developers; establish application development and Web services standards based on the latest technologies and best practices; and work with developers to ensure that standards are communicated, understood and implemented. The exact nature of the design and development work for this project will depend in part on the experience of the selected vendor or staff and on the architectural components and programmatic approaches that the vendor has already developed and used in prior projects. Some contractual work needed to implement the system may be done by staff, some by employees of the selected vendor and other by third party contractors working with Labor or the vendor. The

Web services specialist will design, create and modify Web tools for data analysis and reporting; analyze user needs to implement website content, graphics, performance and capacity; and convert written and graphic components to agency and partner compatible Web formats, using software designed to create Web and multimedia content.

A Financial Technician from the department's fiscal officer staff and accounting bureau will provide input and financial oversight for the management of all phases of this project.

A Technical Writer will manage grant documentation and reporting duties from initial planning through writing, editing, reviewing, revising and creating graphics through final publication. The writer will have a working knowledge of educational data and federal and state education policy, rules and regulations to ensure document conformity with grant requirements. The **Technical Writer** will work closely with the researchers in planning, developing and writing program policy and procedure protocols for analysis, reporting and publication.

iv. Staff Contributions and Confidentiality Assurance

The outcomes of this grant will be the responsibility of the Idaho Department of Labor. The various outcomes will be divided into projects. The department's Project Manager will work with stakeholders to identify tasks and assign responsibilities based on a framework for project management, which typically includes scope, time, cost, quality and communication management. The processes involved in the framework will be audited on a quarterly basis to ensure consistency and adherence to the intended project outcome. Each part of this project will be managed electronically, using an MSProject Server, and will be divided into four stages: Initiation, Planning, Execution and Closing. Baseline variances against task averages will be used to measure task life-cycle durations and compare across the task portfolio to ensure all tasks will be completed on time and within budget.

As noted earlier, security and confidentiality are paramount to the department's credibility with its data users and providers, which is why all Labor employees are subject to the strict confidentiality

guidelines, requirements and potential violations under state and federal law, which would include the incorporation of FERPA under this grant.

v. Project Implementation and Administration

Grant staffing will be the responsibility of the Idaho Department of Labor. The division lead within Labor will be its Communications and Research Division, which is the administrative entity for the state's cooperative agreement with the Bureau of Labor Statistics and is the states Census Data Center. The division has a robust research staff of 30 people – a department deputy director in charge of oversight and administration, a chief research officer, three research supervisors, four research principals, seven senior research analysts, four research analysts, six regional labor economists, one communications professional and three people to coordinate the department's publications and Web graphics needs. Communications and Research is also home for the state's online Idaho Career Information System and has contracts for providing that service to more than 270 schools throughout the state.

6. Other Data Linkages

Labor currently has existing confidential data exchange agreements with the Idaho Division of Vocational Rehabilitation and the Idaho Department of Health and Welfare for programs such as Temporary Assistance for Needy Families and the Supplemental Nutritional Assistance Program. The development of an analytics tool within Labor and the subsequent design of a longitudinal database for education will allow both Labor and the State Board of Education to expand those programs.

Recently, the department agreed to help the Idaho Board of Nursing complete a supply/demand study by updating and housing its database in exchange for access to its licensure data. Labor used the expertise of its information technology division to upgrade and house a database for the Idaho Board of Nursing and to develop online reporting tools and other platforms including a secure FTP server necessary for the

confidential exchange of data between Labor and the various schools of nursing. Since then, Labor has been called on to establish secure FTP servers for other state agencies.